RTIP ID# *(required)* ORA030605

TCWG Consideration Date December 2010

Project Description *(clearly describe project)*

The I-405 Improvement Project is located in Orange County on Route I-405 between SR-73 (PM 10.3) and I-605 (PM 24.1). The project covers a distance of approximately 14 miles. Within the limits of the proposed project, I-405 is a controlled-access highway facility with a fenced right-of-way (ROW), separated by grade from crossing traffic, with vehicular access limited to interchanges. Within the project area, I-405 consists of 8 to 12 mixed-flow general purpose (GP) lanes and two high-occupancy vehicle (HOV) lanes. The purposes of the project can be defined as follows:

- Add capacity and reduce congestion on the GP and HOV lanes along the entire I-405 corridor from SR-73 to I-605;
- Enhance interchange operations;
- Increase mobility, improve trip reliability, maximize throughput, and optimize operations;
- Implement strategies that ensure the earliest project delivery; and
- Enhance safety.

COMMON DESIGN FEATURES OF THE BUILD ALTERNATIVES

Build Alternatives 1, 2, and 3 would include the following features:

- One GP lane would be added in each direction of I-405 from Euclid Street to the I-605 interchange.

- Travel lanes on the I-405 mainline would be 12 feet wide, and right side shoulders would be 10 feet wide.

- Due to the added travel lanes and shoulder widths proposed on the I-405 mainline, 16 local street overcrossings and a pedestrian bridge over I-405 within the project limits would require complete replacement because the existing bridge spans are inadequate to accommodate the additional proposed width of the freeway underneath the bridges. Each of the replacement (new) local street overcrossings would be designed to accommodate the ultimate cross-section width and maximum number of travel lanes planned for each facility by the Orange County Master Plan of Arterial Highways (MPAH).

- The Euclid Street/Ellis Avenue undercrossing bridge would be modified and extended as part of the proposed project.

- Two railroad overheads would be modified and extended as part of the proposed project. The freeway passes over the Union Pacific Railroad (UPRR) on the Bolsa Overhead (Bridge No. 55-269 at PM 17.21) and the U.S. Navy Railroad on the Navy Overhead (Bridge No. 55-272 at PM 18.36). Both railroad overheads would be widened, required railroad clearances would be maintained, and a crash cushion would be installed at the UPRR overhead.

- Improvements at each interchange within the project limits are proposed. Generally, each interchange improvement would have the following standard features:
  - Left- and right-side shoulders on on-/off-ramps;
  - Increased on-ramp storage capacity for ramp meters;
  - Removal of HOV bypass lanes from on-ramps, subject to individual analysis of each on-ramp and approval by the Department and Federal Highway Administration (FHWA);

- Increased off-ramp storage capacity at local street intersections; and
- Additional through and turn lanes at intersections of ramps and local streets.

- Each build alternative would include interchange reconfigurations at Euclid Street, Ellis Avenue, Brookhurst Street, Magnolia Street, Warner Avenue, Beach Boulevard, and Westminster Boulevard.

- The build alternatives would provide appropriate pedestrian facilities on overcrossings and along arterials within interchanges.

- Maintenance vehicle pullouts (MVP) would be included in various locations under each build alternative.

- Each build alternative would require relocation of existing utilities (e.g., electrical lines, irrigation water supply lines, underground natural gas pipelines, telecommunication lines) currently present within the I-405 ROW limits.

- The build alternatives would require modification of existing stormwater drainage channels and construction of new drainage and/or retention facilities necessary to accommodate project construction and provide sufficient drainage capacity to accommodate future runoff volumes generated with the built project in place.

- Each build alternative would add water quality Best Management Practices (BMPs).

- At various locations, new or reconstructed soundwalls and retaining walls would be constructed. Replacement walls would be constructed in areas where sections of existing walls must be modified to accommodate the proposed project.

- Landscaping and hardscaping elements would be included with each build alternative.

- Due to ROW constraints and existing non-standard features, design exceptions are being requested as a part of the proposed project. Examples of such design exceptions include the following:
  - Non-standard superelevation rates: approve new grades for ramps;
  - Lengths of transitions on ramps: approve either shortened or tightened ramps;
  - Non-standard longitudinal grades at existing tie-ins: approve the ramps into mainline to match the mainline grade; and
  - Access control: approve spacing from ramp off and on to existing driveways for businesses.

- Although TSM and TDM measures alone do not satisfy the purpose and need of the project, the following TSM and TDM measures may be incorporated into each of the build alternatives for the proposed project:
  - Real Time Adaptive Ramp Metering (RTARM) and camera systems would be provided on on-ramps;
  - At locations of interchange improvements, traffic signals would be interconnected and coordinated, where possible, to enhance traffic operations;
  - Pedestrians improvements would be added wherever possible;
  - Additional Park & Ride/ Intermodal facilities would be added at various locations to integrate with Bus Rapid Transit (BRT), express bus, Go Local Metrolink Connectors, community circulators, and local bus;
  - At all existing locations, Park & Ride facilities would be improved, including adding way-finding signs on freeways and arterials, information kiosks, and improved safety features;
  - Auxiliary lanes would be provided in various locations;

- On- and off-ramps would be designed to limit impacts to non-motorized travel, preserving access to bike lanes and trails such as the Santa Ana River bike trail; and
- Intelligent transportation systems (ITS) elements, where needed and feasible, would be provided, including the following: fiber-optic communication systems, changeable message signs, and vehicle detection systems.

UNIQUE FEATURES OF BUILD ALTERNATIVES

Alternative 1 – Add One GP Lane in Each Direction

Alternative 1 would add a single GP lane in each direction of I-405 from Euclid Street to the I-605 interchange. It would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes as well as 10-foot-wide shoulders on both left (inside) and right (outside) sides in both directions.

Alternative 1 would provide continuous access between the HOV and GP lanes. On July 31, 2007, the Department approved a separate project to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 1 of the proposed project for the segment of I-405 between Euclid Street and I-605.

Under Alternative 1, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. The existing auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. Additional northbound auxiliary lanes would be provided between ramps at the following locations:

- From the southbound Harbor Boulevard/Hyland Street/westbound South Coast Drive on-ramp to the Euclid Street/Ellis Avenue off-ramp; and
- From the Seal Beach Boulevard on-ramp to the westbound SR-22/7th Street off-ramp.

In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. A southbound auxiliary lane would be provided from the Goldenwest Street/Bolsa Avenue collector-distributor (C-D) road on-ramp to the Beach Boulevard/Center Avenue off-ramp.

In the northern segment of the project area where SR-22 and I-405 overlap, Alternative 1 would result in a freeway with nine through lanes in each direction. For traffic in the left lanes, including the HOV lanes, signage would be provided far enough upstream to accommodate the required number of lane changes to properly exit the freeway.

Alternative 1 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following:

- Provision of additional capacity in the form of a continuous additional lane through the entire project area;
- Provision of operational improvements via redesign of interchanges and provision of additional auxiliary lanes;
- Addition of substantial vehicle storage at ramp meters through the proposed interchange reconfigurations; and
- Reduction of congestion compared to future conditions under the No Build Alternative.

Alternative 2 – Add Two GP Lanes in Each Direction

Alternative 2 would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternative 1), plus add a second GP lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second GP lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street.

Alternative 2 would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes and shoulders on the left and right sides in both directions. Right side (outside) shoulders would be 10-foot-wide, while left side (inside) shoulders would have a maximum width of 10 feet with a provision for a widened left shoulder for HOV enforcement areas under consideration.

Alternative 2 would provide continuous access between the HOV and GP lanes. On July 31, 2007, the Department approved separate project to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 2 of the proposed project for the segment of I-405 between Euclid Street and I-605.

Under Alternative 2, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. In the northbound direction, the existing auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. A northbound auxiliary lane would be provided from the southbound Harbor Boulevard/Hyland Street/ westbound South Coast Drive on-ramp to the Euclid Street/Ellis Avenue off-ramp.

In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. A southbound auxiliary lane would be provided from the Goldenwest Street/Bolsa Avenue C-D road on-ramp to the Beach Boulevard/Center Avenue off-ramp.

In the northern section of the project area where SR-22 and I-405 overlap, Alternative 2 would result in a freeway with 9-10 through lanes in each direction. Signage would be provided far enough upstream to accommodate the required number of lane changes to exit the freeway for traffic in the left lanes, including the HOV lanes.

Alternative 2 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following:

- Enhancement of capacity in the form of two continuous additional lanes through the project area;
- Improvement of highway operations via redesign of interchanges and addition of new auxiliary lanes;
- Addition of substantial vehicle storage at ramp meters through the proposed interchange reconfigurations; and
- Relief of congestion compared to future conditions under the No Build Alternative.

Alternative 3 – Express Facility

Alternative 3 would add one GP lane in each direction of I-405 from Euclid Street to the I-605 interchange (as in Alternatives 1 and 2), plus add a tolled express lane in each direction of I-405 from SR-73 to I-605. The tolled express lane would be placed beside the existing HOV lane in each direction. The existing HOV lanes and new toll lanes would be managed jointly as an Express Lane Facility with two lanes in each direction.

Operation of the Express Lane Facility would provide preferential toll treatment for HOVs. All vehicles in the express lanes, tolled or free, would be able to use both lanes of the Express Lane Facility. Tolls for use of the Express Lane Facility would be collected exclusively by electronic media. Signing related to the Express Lane Facility would provide both toll and access information to motorists before entering each segment of the Express Lane Facility.

Alternative 3 would provide a full standard highway cross section, with 12-foot-wide mainline travel lanes and shoulders on the left and right sides in both directions. Right side (outside) shoulders would be 10-foot-wide, while left side (inside) shoulders would have a maximum width of 10 feet with a provision for a widened left shoulder for enforcement areas under consideration. The joint HOV/toll lane Express Lane Facility would be separated from the GP lanes by a 1-to-4 foot buffer.

Under Alternative 3, auxiliary lanes would be added at various locations to provide efficient merge and diverge operations. The existing auxiliary lane from the Magnolia Street on-ramp to the Beach Boulevard off-ramp would be retained. Additional northbound auxiliary lanes would be provided between ramps at the following locations:

- From the southbound Harbor Boulevard/Hyland Street/westbound South Coast Drive on-ramp to the Euclid Street/Ellis Avenue off-ramp;
- From the Magnolia Street on-ramp to the Beach Boulevard off-ramp; and
- From the Seal Beach Boulevard on-ramp to the westbound SR-22/7th Street off-ramp.

In the southbound direction, the existing auxiliary lane from the Beach Boulevard on-ramp to the Magnolia Street off-ramp would not be retained. Southbound additional auxiliary lanes would be provided between ramps at the following locations:

- From the Goldenwest Street/Bolsa Avenue C-D road on-ramp to the Beach Boulevard/Center Avenue off-ramp; and
- From the southbound Euclid Street on-ramp to the Harbor Boulevard off-ramp, the southern portion of which currently exists.

To accommodate the Express Lane Facility on I-405, there would be transition areas at both ends of the project to match the existing HOV and GP lane designations north and south of the project limits. Transition areas would include portions of I-605 and SR-73, as well as portions of I-405 north of I-605 and south of SR-73. A transition area would also be required on SR-22 east of I 405.

To facilitate access to the Express Lane Facility, the following seven access points are currently under consideration:

1. I-405 south of the SR-73 junction, by an at-grade access;
2. SR-73, by either an at-grade access or a direct connector;
3. I-405 in the Brookhurst Street/Magnolia Street area, by an at-grade access;
4. I-405 in the Goldenwest Street/Westminster Boulevard area, by an at-grade access;
5. SR-22 east of the I-405 junction, by a direct connector;
6. I-605 north of the I-405 junction, by a direct connector; and
7. I-405 north of the I-605 junction, by at-grade access.

At the Brookhurst Street/Magnolia Street and Goldenwest Street/Westminster Boulevard access locations, access to the Express Lane Facility would be at-grade and similar to ingress/egress treatments used on at-grade buffer-separated HOV facilities.

Access to the Express Lane Facility from SR-22 and I-605 would be via the HOV direct connectors to be constructed as part of the SR-22 WCC Project. Under Alternative 3, the WCC Project HOV direct connectors would become part of the I-405 Express Lane Facility, and use of the HOV lane direct connectors would become tolled for vehicles not meeting the HOV occupancy requirement.

In the northern section of the project area where SR-22 and I-405 overlap, Alternative 3 would result in a freeway with nine through lanes in each direction. For traffic in the left lanes, including the HOV lanes, to properly exit the freeway, signage would be provided far enough upstream to accommodate the required number of lane changes to exit the freeway.

Alternative 3 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following:

- Addition of capacity in the form of two new continuous lanes through the project area;
- Provision of operational improvements through redesign of interchanges and addition of auxiliary lanes;
- Addition of considerable vehicle storage at ramp meters through the proposed interchange reconfigurations; and
- Reduction of congestion compared to future conditions under the No Build Alternative.

No Build (No Action) Alternative

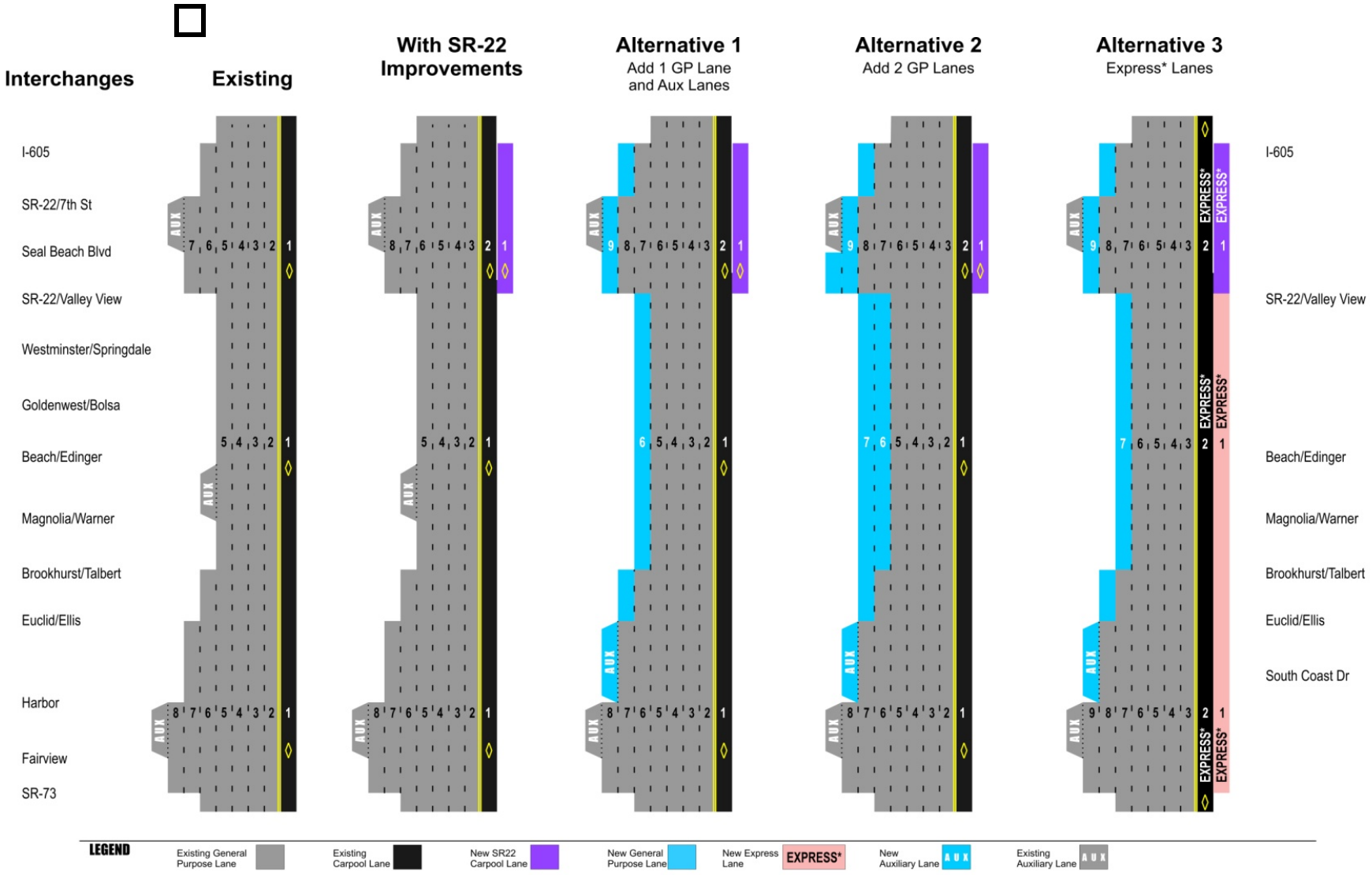
The No Build Alternative provides a "baseline" for comparing impacts associated with the build alternatives because environmental review must consider the effects of not implementing the proposed project. The Project Baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements and would not achieve the project's stated purpose and need

Compared to the existing condition, the future Project Baseline assumed under the No Build Alternative includes the future completion of the following two projects:

- The SR-22 WCC Project (currently in the construction phase), which has received environmental document approval and is proceeding through the design and construction phases; and
- The Costa Mesa Freeway (SR-55) Improvements, which would add new lanes to SR-55 between SR-22 on the north and I-405 on the south and improvements on SR-55 between SR-91 on the north and SR-22 on the south.

The following improvements in the project area are to be constructed by the SR-22 WCC Project and are considered part of the future Project Baseline conditions:

- An additional HOV lane in each direction between SR-22 East and I-605;
- HOV lane direct connectors at the I-405/SR-22 East and I-405/I-605 interchanges;
- Relocation of the existing off-ramp to southbound Bolsa Chica Road, which currently exits from the eastbound SR-22 branch connector, to exit from the I-405 southbound mainline;
- Replacement of the Seal Beach Boulevard overcrossing;
- Replacement of the SR-22 bridge carrying westbound SR-22 over I-405 near 7th Street;
- Replacement of the SR-22 bridge carrying eastbound SR-22 over I-405 near Valley View Street;
- New bridge carrying the planned I-405/SR-22 HOV direct connectors over I-405 northbound; and
- New bridge carrying the planned I-405/I-605 HOV direct connector over I-405 northbound.


Interchanges
Existing
With SR-22 Improvements
Alternative 1
Add 1 GP Lane and Aux Lanes
Alternative 2
Add 2 GP Lanes
Alternative 3
Express* Lanes
I-605
SR-22/7th St
Seal Beach Blvd
SR-22/Valley View
Westminster/Springdale
Goldenwest/Bolsa
Beach/Edinger
Magnolia/Warner
Brookhurst/Talbert
Euclid/Ellis
Harbor
Fairview
SR-73
South Coast Dr
AUX
EXPRESS*
LEGEND
Existing General Purpose Lane
Existing Carpool Lane
New SR22 Carpool Lane
New General Purpose Lane
New Express Lane
New Auxiliary Lane
Existing Auxiliary Lane

Type of Project *(use Table 1 on instruction sheet)*
Change to Existing State Highway
Reconfigure Existing Interchange

County	**Narrative Location/Route & Postmiles**
Orange	The I-405 Improvement Project is located in Orange County on Route I-405 between SR-73 (PM 10.3) and I-605 (PM 24.1). I-405 is considered a bypass route to the Interstate 5 (I-5) Santa Ana/Golden State Freeway through Orange County and an important component of the County's transportation system. I-405 is a controlled access facility with a fenced ROW separated by grade from crossing traffic, with vehicular access limited to interchanges. Within the project area, I-405 crosses (or is adjacent to) residential, commercial, recreational, and industrial urbanized uses that have developed directly up to the Caltrans ROW boundary. **Caltrans Projects – EA# OH1000**

Lead Agency: California Department of Transportation

Contact Person	**Phone#**	**Email**	**Fax**
Reza Aurasteh	(949) 724-2738	reza_aurasteh@dot.ca.	(949) 724-2256

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5** X **PM10** X

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

Categorical Exclusion (NEPA)		**EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	**Other**
	X				

Scheduled Date of Federal Action: December 2012

NEPA Delegation – Project Type *(check appropriate box)*

Exempt	**Section 6004 – Categorical Exemption**		**Section 6005 – Non-Categorical Exemption**
		X	

Current Programming Dates *(as appropriate)*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start	Mar 2009	Jan 2013	July 2014	Mar 2018
End	Dec 2012	Mar 2017	July 2017	Mar 2023

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*
The purposes of the project can be defined as follows:

- Add capacity and reduce congestion on the GP and HOV lanes along the entire I-405 corridor from SR-73 to I-605;
- Enhance interchange operations;
- Increase mobility, improve trip reliability, maximize throughput, and optimize operations;
- Implement strategies that ensure the earliest project delivery; and
- Enhance safety.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*
I-405 provides access between cities in Orange and Los Angeles Counties. It is used for commuting and inter-regional travel, along with direct and indirect access to employment centers, recreational attractions, shopping malls, medical centers, universities, airports, and other land uses. A segment of the freeway in the northern portion of the project area is one of the heaviest travelled in the nation.

Residential land uses generally border the project site throughout the length of the corridor. Other nearby land uses include parks, agriculture, schools, malls, and commercial buildings. Diesel traffic on the I-405 is generally related to commercial land uses in the project area. Additional heavy-duty truck trips are related to industrial land uses, including the Ports of Los Angeles and Long Beach and refineries.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Table 1: AADT - Opening Year (2020)

Study Segment	No Build			Build		
	Total AADT	Truck AADT	Truck %	Total AADT	Truck AADT	Truck %
SR-22 East to I-605	408,000	12,240	3	454,000	13,620	3
Brookhurst to SR-22 East	279,000	9,765	3.5	310,000	10,850	3.5
SR-73 to Brookhurst	338,000	11,830	3.5	375,000	13,125	3.5

Table 2: Peak Hour LOS - Opening Year (2020)

Study Segment	No Build				Build			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
SR-22 East to I-605	F	F	F	F	D	F	E	D
Brookhurst to SR-22 East	F	F	F	F	D	D	E	E
SR-73 to Brookhurst	F	F	F	F	E	E	E	E

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Table 3: AADT - Horizon Year (2040)

Study Segment	No Build			Build		
	Total AADT	Truck AADT	Truck %	Total AADT	Truck AADT	Truck %
SR-22 East to I-605	434,000	13,020	3	509,000	15,270	3
Brookhurst to SR-22 East	294,000	10,290	3.5	344,000	12,040	3.5
SR-73 to Brookhurst	358,000	12,530	3.5	419,000	14,665	3.5

Table 4: Peak Hour LOS - Horizon Year (2040)								
Study Segment	No Build				Build			
	AM		PM		AM		PM	
	NB	SB	NB	SB	NB	SB	NB	SB
SR-22 East to I-605	F	F	F	F	E	F	F	E
Brookhurst to SR-22 East	F	F	F	F	F	F	F	F
SR-73 to Brookhurst	F	F	F	F	F	F	F	F

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT
Refer to attached sheet.

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT
Refer to attached sheet.

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*
Table 1 shows Opening Year (2020) AADT and LOS on I-405 under the No-Build and Build Alternatives. The AADT and LOS for each build alternative are similar and are represented by one data set. The build alternatives would increase total and truck AADT by approximately 10% along the I-405 alignment. The truck percentage would be identical to No Build conditions at 3 to 3.5%. As shown in Table 2, the increased capacity would improve the AM and PM LOS despite the increased AADT.

Table 3 shows Horizon Year (2040) AADT and LOS on I-405 under the No-Build and Build Alternatives. The build alternatives would increase total and truck AADT by approximately 15 percent along the I-405 alignment. The truck percentage would be identical to No Build conditions at 3 to 3.5%. As shown in Table 4, the northbound AM and southbound PM LOS would improve from F to E along the SR-22 East to I-605 segment. The other segments would continue to operate at LOS F.

During the opening year, the I-405 project may redistribute carpool and transit traffic from local streets onto the I-405 corridor. Most users of express lanes will likely commute between Orange County and Los Angeles County and will not be diverted to local streets.

Comments/Explanation/Details *(attach additional sheets as necessary)*
The EPA Transportation Conformity Guidance includes the following relevant direction regarding Projects of Air Quality Concern (POAQC):

1. New or expanded highway projects that have a significant number or significant increase in diesel vehicles (defined as greater than 125,000 AADT **and** 8% or more such AADT is diesel truck traffic); and

2. Projects affecting intersections that are at a Level of Service D, E, F with a significant number of diesel vehicles, or that will change to Level of Service D, E, F because of increased traffic volumes from a significant number of diesel vehicles related to the project.

As shown in Tables 1 and 3, I-405 AADT would exceed the FHWA POAQC criterion of 125,000 but truck percentages would be less than half of the 8% threshold. In addition, the proposed project would not increase diesel vehicle percentages at any intersection and would not make the LOS worse at related intersections. Under the EPA guidance, the proposed project would not be a POAQC. It is also noteworthy that a regional criteria pollutant analysis has shown that regional PM emissions would be reduced by approximately 17% in 2020 and 26% in 2040 due to improved vehicle speeds resulting from implementation of the proposed project. The improved speeds would also reduce vehicle idling and associated localized emissions.

Because the proposed project is not considered a POAQC, the CAA and 40 CFR 93.116 requirements were met without a hot-spot analysis, since the build alternatives have been found to not be of air quality concern under 40 CFR 93.123(b)(1); therefore, implementation of the proposed project is not anticipated to contribute to additional exceedances of the NAAQS or CAAQS.

Table A: Arterial Average Daily Traffic: I-405 Freeway Interchanges

		---- TOTAL VEHICLES ----			TRUCK PERCENTAGE	--------- TRUCKS ---------		
Arterial	**Segment Limits**	**Existing Year (2009)**	**Project Opening Year (2020)**	**Project Design Year (2040)**	**All Years**	**Existing Year (2009)**	**Project Opening Year (2020)**	**Project Design Year (2040)**
Fairview Road Interchange at I-405								
Fairview Road	MacArthur Boulevard to South Coast Drive	40,480	53,070	61,420	1%	405	531	614
	South Coast Drive to I-405 SB Ramps	51,780	57,490	61,280	1%	518	575	613
	I-405 SB Ramps to Baker Street	46,660	48,360	49,490	1%	467	484	495
Harbor Boulevard & Hyland Avenue Interchange at I-405								
South Coast Drive	I-405 NB On-Ramp to Harbor Boulevard	9,990	13,440	15,730	1%	100	134	157
Harbor Boulevard	South Coast Drive to I-405 NB Ramps	56,550	64,620	69,960	1%	566	646	700
	I-405 NB Ramps to I-405 SB Ramps	44,470	56,910	65,150	1%	445	569	652
	I-405 SB Ramps to Gisler Avenue	69,580	72,120	73,790	1%	696	721	738
Euclid Street/Ellis Avenue Interchange at I-405								
Euclid Street/Ellis Avenue	Talbert Avenue to I-405 NB Ramps/Newhope Street	20,630	33,590	42,170	1%	206	336	422
	I-405 NB Ramps/Newhope Street to I-405 SB Ramps	28,960	38,150	44,230	1%	290	382	442
	I-405 SB Ramps to Ward Street	29,140	35,870	40,320	1%	291	359	403
Brookhurst Street & Talbert Avenue Interchange at I-405								
Brookhurst Street	Slater Avenue to I-405 NB Ramps	52,140	57,560	61,150	1%	521	576	612
	I-405 NB Ramps to I-405 SB Ramps	55,100	59,260	62,020	1%	551	593	620
	I-405 SB Ramps to Talbert Avenue	51,760	55,940	58,700	1%	518	559	587
Talbert Avenue	Bushard Street to Brookhurst Street	27,140	31,410	34,240	1%	271	314	342
	Brookhurst Street to Ward Street	19,870	24,340	27,300	1%	199	243	273
Magnolia Street & Warner Avenue Interchange at I-405								
Magnolia Street	Heil Avenue to I-405 NB On-Ramp	37,740	41,240	43,550	1%	377	412	436
	I-405 NB On-Ramp to I-405 SB Ramps	34,450	38,310	40,860	1%	345	383	409
	I-405 SB Ramps to Warner Avenue	33,950	35,840	37,090	1%	340	358	371
Warner Avenue	Magnolia Street to I-405 SB Ramps	44,170	45,770	46,840	1%	442	458	468
	I-405 SB Ramps to I-405 NB Ramps	38,570	40,610	41,970	1%	386	406	420
	I-405 NB Ramps to Bushard Street	35,880	37,860	39,170	1%	359	379	392
Beach Boulevard & Edinger Avenue Interchange at I-405								
Beach Boulevard	McFadden Avenue to I-405 NB Ramps	66,330	79,230	87,780	2%	1,327	1,585	1,756
	I-405 NB Ramps to I-405 SB Ramps	75,100	87,130	95,090	2%	1,502	1,743	1,902
	I-405 SB Ramps to Edinger Avenue	73,240	88,790	99,090	2%	1,465	1,776	1,982
Edinger Avenue	Beach Boulevard to I-405 SB On-Ramp	31,120	32,370	33,200	1%	311	324	332
	I-405 SB On-Ramp to Newland Street	20,370	22,390	23,720	1%	204	224	237

Table A: Arterial Average Daily Traffic: I-405 Freeway Interchanges

		---- TOTAL VEHICLES ----			TRUCK PERCENTAGE	--------- TRUCKS ---------		
Arterial	**Segment Limits**	**Existing Year (2009)**	**Project Opening Year (2020)**	**Project Design Year (2040)**	**All Years**	**Existing Year (2009)**	**Project Opening Year (2020)**	**Project Design Year (2040)**
Goldenwest Street & Bolsa Avenue Interchange at I-405								
Goldenwest Street	Sowell Avenue to I-405 NB On-Ramp	28,130	35,100	39,720	1%	281	351	397
	I-405 NB On-Ramp to I-405 SB Ramps	40,570	44,380	46,900	1%	406	444	469
Bolsa Avenue	Goldenwest Street to I-405 SB Ramps	41,670	43,180	44,190	1%	417	432	442
	I-405 NB Ramps to Hoover Street	21,130	24,320	26,430	1%	211	243	264
Springdale Street & Westminster Boulevard Interchange at I-405								
Springdale Street	Meinhardt Road/Navajo Road to I-405 SB Off-Ramp	18,980	19,670	20,120	1%	190	197	201
	I-405 SB Off-Ramp to Westminster Boulevard	25,310	26,230	26,840	1%	253	262	268
Westminster Boulevard	Springdale Street to I-405 SB Ramps	41,180	43,110	44,380	1%	412	431	444
	I-405 NB Ramps to Edwards Street	30,400	34,240	36,790	1%	304	342	368
Bolsa Chica Road/Valley View Street & Garden Grove Boulevard Interchange at I-405								
Garden Grove Boulevard	Valley View Street to I-405 NB Off-Ramp/SR-22 EB Ramps	32,310	33,490	34,270	1%	323	335	343
Valley View Street	Cerulean Avenue to SR-22 WB & I-405 NB Ramps	55,610	57,630	58,980	1%	556	576	590
	SR-22 WB & I-405 NB Ramps to Garden Grove Boulevard	64,140	66,480	68,020	1%	641	665	680
Bolsa Chica Road	Garden Grove Boulevard to I-405 SB Ramps	49,950	57,920	63,190	1%	500	579	632
	I-405 SB Ramps to Old Bolsa Chica Road	47,810	57,820	64,460	1%	478	578	645
Seal Beach Boulevard Interchange at I-405								
Seal Beach Boulevard	Lampson Avenue to I-405 NB Ramps	46,970	57,120	63,850	1%	470	571	639
	I-405 NB Ramps to I-405 SB Ramps	44,500	54,130	60,520	1%	445	541	605
	I-405 SB Ramps to Westminster Avenue	31,950	42,990	50,310	1%	320	430	503